



U.S. Application No. 10/777,127  
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Customer No. 22,852

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#### Abstract of the Disclosure

A position determining system in which a mobile tag having an unknown position is tracked in space over time. In use, the mobile tag either transmits or receives signals including a pair of tones at different frequencies from a number of base stations having known locations. The phase of each of the received signals is then measured and the measured phases are then passed to a processing unit which determines the position of the tag at the time of the transmission of the signals on the basis of the difference between the measured phases of the two tones. In one embodiment, this system is combined with a conventional phase-based position measurement which is derived from phase measurements of similar tones transmitted between the mobile tag and different base stations.